Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

Domain	**Standard:** 2.OA.1 - Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem. (See Glossary, Table 1.)
Operations and Algebraic Thinking **Represent and solve problems involving addition and subtraction.**	Questions to Focus Learning What is addition? What is subtraction? In what situations do you use addition or subtraction to solve a problem? The ability to accurately select methods that are appropriate for the context of the problem is critical for real life application of mathematical concepts. Student Friendly Objectives *Knowledge Targets* I can add and subtract numbers within 100 using drawings and equations. I can write addition and subtraction equations with an unknowns. I know the equal sign means “the same number as”. I know addition and subtraction situations. *Reasoning Targets* I can identify important information from a problem. I can explain how to write a number sentence that represents a word problem. I can use a drawing to help me solve a word problem. *Performance Targets* I can explain how to write a number sentence to represent a word problem.

Vocabulary

equation
addend
compare
difference
sum
put together/join
take apart
unknown

Teacher Tips

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http://www.dpi.state.nc.us/acre/standards/common-core-tools/#unmath

Second Grade students extend their work with addition and subtraction word problems in two major ways. First, they represent and solve word problems within 100, building upon their previous work to 20. In addition, they represent and solve one and two-step word problems of all three types (Result Unknown, Change Unknown, Start Unknown). Please see Table 1 at end of document for examples of all problem types.
One-step word problems use one operation. Two-step word problems use two operations which may include the same operation or opposite operations.

Two-Step Problems: Because Second Graders are still developing proficiency with the most difficult subtypes (shaded in white in Table 1 at end of the glossary): Add To/Start Unknown; Take From/Start Unknown; Compare/Bigger Unknown; and Compare/Smaller Unknown, two-step problems do not involve these sub-types (Common core Standards Writing Team, May 2011). Furthermore, most two-step problems should focus on single-digit addends.

As second grade students solve one- and two-step problems they use manipulatives such as snap cubes, place value blocks or hundreds charts; create drawings of manipulatives to show their thinking; or use number lines to solve and describe their strategies. They then relate their drawings and materials to equations. By solving a variety of addition and subtraction word problems, second grade students determine the unknown in all positions (Result unknown, Change unknown, and Start unknown). Rather than a letter ("n"), boxes or pictures are used to represent the unknown number.
Second Graders use a range of methods, often mastering more complex strategies such as making tens and doubles and near doubles for problems involving addition and subtraction within 20. Moving beyond counting and counting-on, second grade students apply their understanding of place value to solve problems.

	This standard also calls for students to solve one- and two-step problems using drawings, objects and equations. Students can use place value blocks or hundreds charts, or create drawings of place value blocks or number lines to support their work. From the *Progressions for the Common Core State Standards in Mathematics- Operations and Algebraic Thinking*: Because there are so many problem situation subtypes (see Table 1 in the Glossary), there are many possible ways to combine such subtypes to devise two-step problems. Because some Grade 2 students are still developing proficiency with the most difficult subtypes, two-step problems should not involve these subtypes. Most work with two-step problems should involve single-digit addends. Most two-step problems made from two easy subtypes are easy to represent with an equation. But problems involving a comparison or two middle difficulty subtypes may be difficult to represent with a single equation and may be better represented by successive drawings or some combination of a diagram for one step and an equation for the other. Students can make up any kind of two-step problems and share them for solving. http://math.arizona.edu/~ime/progressions/ Vertical Progression 3.OA.8 - Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding. (This standard is limited to problems posed with whole numbers and having whole-number answers; students should know how to perform operations in the conventional order when there are no parentheses to specify a particular order [Order of Operations.])

The above information and more can be accessed for free on the Wiki-Teacher website.
Direct link for this standard: 2.OA.1